

## 17th Asia Pacific Symposium on Intelligent and Evolutionary Systems, IES2013

## Preface

Sung-Bae Cho<sup>a</sup>, Aki-Hiro Sato<sup>b</sup>, Kyung-Joong Kim<sup>c</sup><sup>a</sup>*Department of Computer Science, Yonsei University, 134 Shinchon-dong, Sudaemoon-ku, Seoul 120-749, South Korea*<sup>b</sup>*Department of Applied Mathematics and Physics, Graduate School of Informatics, Kyoto University 606-8501 Kyoto, Japan*<sup>c</sup>*Department of Computer Engineering, Sejong University, 98 Gunja-Dong, Gwangjin-Gu, Seoul 143-747, South Korea*

---

**Abstract**

This volume contains papers presented at the 17th Asia Pacific Symposium on Intelligent and Evolutionary Systems held in Seoul, South Korea during November 7-9, 2013. The conference was organized by Yonsei University and financially sponsored by the Seoul metropolitan government.

© 2013 The Authors. Published by Elsevier B.V. Open access under [CC BY-NC-ND license](#).

Selection and peer-review under responsibility of the Program Committee of IES2013

**Keywords:** Asia Pacific Symposium on Intelligent and Evolutionary Systems

---

This volume contains papers presented at the 17th Asia Pacific Symposium on Intelligent and Evolutionary Systems held in Seoul, South Korea during November 7-9, 2013. The conference was organized by Yonsei University and financially sponsored by the Seoul metropolitan government.

This is the annual series Asia Pacific symposium on intelligent and evolutionary systems (IES). During the last decade, IES has completed her voyage around the Asia Pacific area, including 7th one held at Kitakyushu, Japan in 2003, 8th one held at Cairns, Australia in 2004, 9th one held at Hakodate, Japan in 2005, 10th one held at Seoul, Korea in 2006, 11th one held at Kanagawa, Japan in 2007, 12th one held at Melbourne, Australia in 2008, 13th one held at Hakata, Japan in 2009, 14th one held at Hiroshima, Japan in 2010, 15th one held at Yokohama, Japan in 2011, and 16th one held at Kyoto, Japan in 2012. We are honored to be selected as the hosts for the 17th iteration of this symposium series this year. Seoul is the capital of South Korea, whose traditions have been matured through the ages, teaches its rich culture and experience.

IES aims to bring together researchers from countries of the Asian Pacific Rim in the fields of intelligent systems and evolutionary computation to exchange ideas, present recent results and discuss possible collaborations. This symposium covers all topics in intelligent systems and evolutionary computation. In order to encourage in-depth technical discussions, the number of participants of the symposium is limited to about 40. The symposium allocated ample time for discussions in addition to paper presentations.

IES2013 received 52 submissions from all over the world, with large numbers of papers from Asian countries (Japan, China, South Korea, Singapore, Thailand, Malaysia, India, Iran, Kuwait, and Hong Kong), a few from Europe, United States, and Australia. 35 papers are accepted in this special issue. These papers were evaluated on the basis of their importance. Each paper was reviewed by at least two reviewers selected by the program committee members.

---

\* Corresponding author.

We would like to express our sincere gratitude to all the participants, committee members, and plenary speakers for contributing to this symposium. To organize the symposium we needed and will need many helps.

Firstly, in order to build up the symposium, we are helped by members of organizing committee; Dr. Akira Namatame, Chair (National Defense Academy of Japan, Japan), Dr. Hussein A. Abbass (University of New South Wales, Australia), Dr. Shu-Heng Chen (National Chengchi University, Taiwan), Dr. Hiroshi Kawakami (Kyoto University, Japan), Dr. Hidenori Kawamura (Hokkaido University, Japan), Dr. Bob McKay (Seoul National University, South Korea), Dr. Kazuhiro Ohkura (Hiroshima University, Japan), Dr. Tomohiro Shirakawa (National Defense Academy of Japan, Japan) and Dr. Mitsuo Gen (Fuzzy Logic Systems Institute, Japan)

Secondly, in order to establish the symposium program, we are assisted by members of Program committee; Dr. Sachiyo Arai (Chiba University, Japan), Dr. Zdzislaw Burda (Jagiellonian University, Poland), Dr. Lee Chang-Yong (Kongju National University, South Korea), Dr. Siew Ann Cheong (Nanyang Technological University, Singapore), Dr. Lock-Yue Chew (Nanyang Technological University, Singapore), Dr. Le Anh Cuong (Vietnam National University, Vietnam), Dr. Satchidananda Dehuri (Fakir Mohan University, India), Dr. Hisashi Handa (Kindai University, Japan), Dr. Saori Iwanaga (Japan Coast Guard Academy, Japan), Dr. Woo-Sung Jung (POSTECH, South Korea), Dr. Yasushi Kambayashi (Nippon Institute of Technology, Japan), Dr. Moto Kamiura (Tokyo Denki University, Japan), Dr. Hiroshi Kawakami (Kyoto University, Japan), Dr. Eisuke Kita (Nagoya University, Japan), Dr. Bob McKay (Seoul National University, South Korea), Dr. Yusuke Nojima (Osaka Prefecture University, Japan), Dr. Nasimul No-man (University of Tokyo, Japan), Dr. Yew-Soon Ong (Nanyang Technological University, Singapore), Dr. Tapabrata Ray (University of New South Wales, Australian Defense Force Academy, Australia), Dr. Tomohiro Shirakawa (National Defense Academy of Japan, Japan), Dr. Seung-Woo Son (Hanyang University, South Korea), Dr. Jun Suzuki (University of Massachusetts Boston, USA), Dr. Keiji Suzuki (Hokkaido University, Japan), Dr. Chung-Ching Tai (Tunghai University, Taiwan), Dr. Tatsuji Takahashi (Tokyo Denki University, Japan), Dr. Kay Chen Tan (National University of Singapore), Dr. Ruck Thawonmas (Ritsumeikan University, Japan) and Dr. Yasuhiro Tsujimura (Nippon Institute of Technology, Japan).

Thirdly, the symposium needs cooperation by profound plenary speakers. Great minds always encourage new great minds. David Ussery (Oak Ridge National Laboratory (ORNL), USA), Naftali Tishby (The Hebrew University, Israel), Kay Chen Tan (National University of Singapore, Singapore), Bob McKay (Seoul National University, Korea), and Yew-Soon Ong (Nanyang Technological University, Singapore) kindly accept to deliver their current research on intelligent and evolutionary systems.

Our last but not least thanks to all the authors who submitted papers and all the attendees. We hope you will enjoy the conference at Seoul. See you at IES2013.

Dr. Sung-Bae Cho, Chair

Dr. Aki-Hiro Sato, Program Co-Chair

Dr. Kyung-Joong Kim, Program Co-Chair